POSIFLEX

Aura Series
(PP7000 / PP7000-II)
Thermal Printer

User's Guide

Rev.: A1

IMPORTANT!!!!

Please read carefully before using this printer

Before opening the Top Hood, make sure there is no paper jam or cutter jam trouble. (Read page 3-4, 3-5 and Warranty Limit in the user's Manual.)

POSIFLEX

Federal Communications Commission Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

For compliance with Federal Noise Interference Standard, this equipment requires a shielded cable.

This statement will be applied only for the printers marketed in U.S.A.

CE manufacturer's Declaration of Conformity (EC Council Directive 89/336/EEC of 3 May 1989)

This product has been designed and manufactured in accordance with the International Standards EN50081-1/01.92 and EN50082-1/01.92 following the provisions of the Electro Magnetic Compatibility Directive of the European Communities as of May 1989

Warranty Limits

Warranty will terminate automatically when the machine is opened by any person other than the authorized technicians. The user should consult his/her dealer for the problem happened. Warranty voids if the user does not follow the instructions in application of this merchandise. The manufacturer is by no means responsible for any damage or hazard caused by improper application.

About This Manual

This manual is aimed to assist the user to utilize the Aura (PP7000) series which is a series of POS thermal printers delicately designed to work with either serial or parallel interface connection. This manual covers both operational and technical aspects. This manual covers also the Epson emulation commands and some special features of the printer.

The manufacturer of the Aura (PP7000) series heartily apologizes to the user for reserving the right to change or to modify this manual without notice due to the rapid and constant progress and improvement on science and technology. The user may always obtain the most up to date information through our web sites: *http://www.posiflex.com.tw*, *http://www.posiflextw.com*, *http://www.posiflexuk.com* or *http://www.posiflexusa.com*

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CE

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I. GETTING STARTED

A. CONGRATULATION

You have made a very wise decision by purchasing the easy loading ; low noise ; high resolution ; light weight ; high reliability thermal printer Aura (PP7000 & PP7000-II) series of Posiflex products. This series of printers has been elegantly designed for a Point-Of-Sale, kitchen & kiosk application. The manufacturer of this printer not only wishes to take this opportunity to congratulate your smart investment on buying this printer but also likes to express the wishes for your prosperous future by using it.

B. PRODUCT BRIEFING

The Aura series printer uses thermal sensitive paper in form of a roll at a width of 80 mm (standard) or 58 mm (option). The Aura series printer serves the stand-alone desk top application as well as the application within a Posiflex integrated POS system equally perfect.

The Aura series support two types of interface input through different sub-codes to the model number. The interfaces are RS232 for serial interface and Centronics for parallel interface. Aura printer of different model number sub-codes utilizes different cabinet color and accessory cable and switch setting to accommodate the requirement of different interface.

The Aura supports a guillotine type auto cutter for paper partial cut and a manual cut mechanism. The Aura series also supports user's company's LOGO downloading for superior performance. It even supports some enhancement capability for

reminder function to persons around. It can be used to drive a separately purchased **kitchen bell** for such reminder function in noisy environment. This printer also supports application in different countries of various kinds of power systems by changing the power cord to the power adaptor. The PP7000-II is the enhanced model from PP7000 for higher print speed.

C. UNPACKING

Followings are items you may find when you carefully unpack the carton that delivers Aura series printer. If there is any discrepancy or problem, contact your dealer immediately. **Be sure to save the packing materials in case the printer needs to be shipped at some point in the future**.

① The printer itself

② Thermal paper roll 80 mm wide

③ One piece of spacer plate

④ One of the interface cables:

a Serial cable with 9 pin D sub Female to 9 pin D sub Male connectors for Aura (PP7000/PP7000-II)S

b Parallel cable with 25 pin D sub Male to 25 pin D sub Female connectors for Aura (PP7000/PP7000-II)C

Length of the interface cable depends on whether the order includes the power adaptor. When power adaptor is included, the interface cable is 6 ft long for stand alone application. When the power adaptor is not included in the order, the interface cable is a shorter one for integrated application in Posiflex POS system.

⑤ One of the power sources:

a Power adaptor + power cord (depend on country type ordered).

b Power supply cable (when no power adaptor ordered)

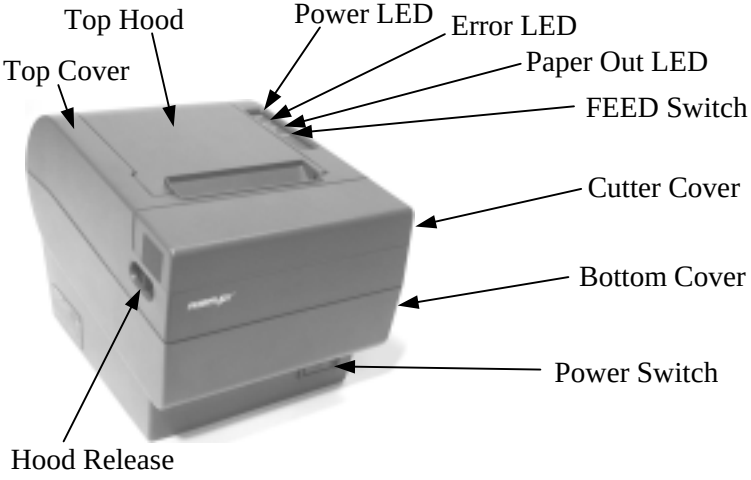
This printer power supply cable is used to supply power to the printer from the Posiflex POS system.

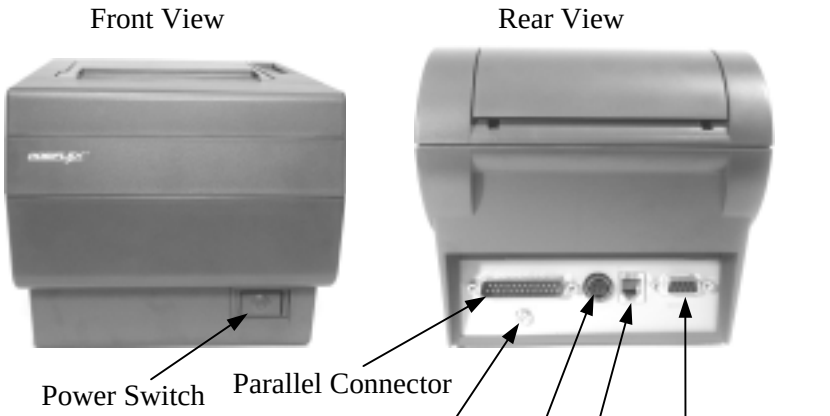
⑥ This User's Manual

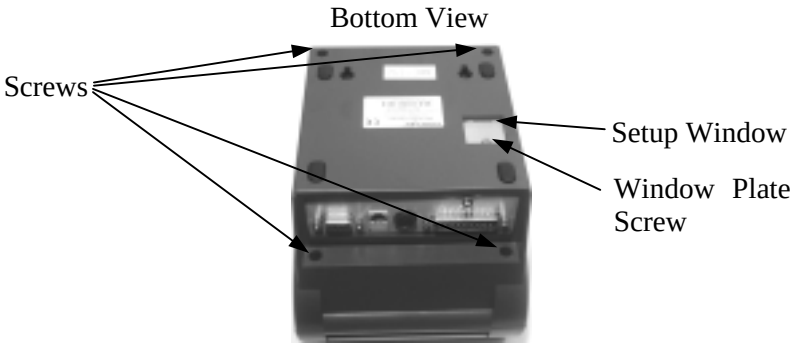
D. OPTIONS

- 58 mm paper guide adaptor (can be modified at distributor's site only)
- Kitchen bell
- Wall mount kit

E. MAIN PARTS ON THE EXTERIOR







F. INDICATORS

- Power LED: green
- Error LED: red
- Paper Out LED: red

G. OPERATING ENVIRONMENT

- Place the printer on a sturdy, level surface.
- Choose a place that is well ventilated and free of excessive dust, smoke or fume.
- Do not put the printer under direct sunlight or near a heater.
- Ideal room temperature is from 5ºC to 40ºC. Ideal humidity is from 20% to 85% RH (no condensation).
- Since the paper roll is highly thermal sensitive, please keep them in a dark place that is 20º and 65% RH when not installed in the printer.
- Use a grounded AC power outlet.
- Use only the power cord and power adaptor furnished with the printer.
- Do not use a power outlet of a circuit shared with any equipment that causes great electrical noise, such as motors.
- Do not use a power outlet of a circuit shared with any equipment that uses a lot of power, such as a copier or a coffee maker.
- Do not touch any connector contacts to avoid possible electrostatic damage.
- Do not allow the cut receipt to slide back into the cutter during the operation. As this would lead to multiple cutting at the lower edge of a receipt and the multiple cut thin slips tend to cause mechanical malfunction.

H. USEFUL TIPS

- Do not touch the areas around the print head and motor during or right after printing. It can be very hot.
- Do not use thermal paper containing Sodium (Na+), Potassium (K+) and Chlorine (Cl-) ions that can harm the print head thermal elements.
- Use only water paste, starch paste, polyvinyl paste or CMC paste when gluing thermal paper.
- Use of volatile organic solvents such as alcohol, ester and ketone on thermal paper can cause discoloration.
- Some adhesive tapes on thermal paper may cause discoloration or faded printing.
- Use only products made from polyethylene, polypropylene or polyester for storage of thermal paper. If thermal paper touches anything includes phthalic acid ester plasticizer for a long time, the image formation ability may be reduced or the printed image may fade.
- If thermal paper touches diazzo copy paper immediately after copying, the printed surface may be discolored.
- Thermal paper must not be stored with the printed surfaces against each other as the printing may be transferred between the surfaces.
- If the surface of thermal paper is scratched with a hard object such as a nail, the paper may become discolored.
- Store thermal paper away from high temperature and humidity. Avoid extended exposure to direct light.
- Do not set any liquid or drinks such as coffee on the printer case

II. QUICK START-UP

A. LOADING PAPER

1. Desk top application

1. Slide the hood lock toward the front of the printer to release the hood.

2. Raise the released hood wide open manually.

3. Drop the thermal paper roll inside the printer in the orientation as shown in the picture.
4. Close the hood back leaving the tail of the paper roll coming out of the opening between the hood and the top cover. Tear off excessive paper.

2. When to replace paper

Whenever the printer gives paper out signal or a red line appears on the thermal paper, it is the proper timing for replacing the paper. Do not wait till the print engine is dragging the paper roll at the very end. Remove the leftover and replace a new paper roll as illustrated above to prevent excessive paper dust in the printer and consequently possibility for paper jam.

B. CONNECTING CABLES

1. Serial connection

All the external connectors are in the recessed area at the rear bottom. The serial connector is a 9 pin D sub Female connector at the right in the picture above. Apply the male connector of RS232 cable to this port for serial application. Please note that when serial connection is used, there must be no cable connection at the parallel port on the printer. The default protocol used in serial connection is 19200 bps, none parity, 8 data bits, 1 stop bit. Set in setup window the **switch positions both 1, and 2 to OFF leaving the rest unchanged as factory default setting**.

2. Parallel connection

The parallel connector is a 25 pin D sub Male connector at the leftmost location in the connector area. Apply the female end of the parallel cable at this port for parallel application. Please note that when parallel connection is used, there must be no cable connection at the serial port on the printer. Please also note that to keep parallel interface in fast operation, please adjust in setup

window the **switch positions both 1, and 2 to ON leaving the rest unchanged as factory default setting**.

3. Peripheral connection

The peripheral controller is a RJ11 jack near the serial connector. With use of Posiflex cash drawer cable 20863018001 (CCBLA-180-1) come with cash drawer, this port can control a Posiflex cash drawer CR3100 or CR3200 or CR4000 or CR4100. If a Posiflex special split cable 20867023800 (CCBLA-238) is used instead, this port can control two cash drawers of above models.

When the printer is used as a kitchen printer, please use this port for kitchen bell connection instead.

4. Power connection

The power connector is a 3 pin jack between the peripheral connector and the parallel connector. Either a Posiflex supplied power adaptor or a printer power cable from a Posiflex POS system can be connected to this connector to supply power for this printer. During insertion of the power plug, be sure to hear the click to obtain a firm contact.

CAUTION: Before doing the insertion or extraction of the power plug, be sure to pull the outer sleeve of the plug backward to release the internal latch. Failure to do this could damage the power plug. Such damage is considered as an artificial destruction and is not covered by the warranty.

5. Power on

When all the above cable connections are made correctly, you may connect your power adaptor to the wall outlet. Make

sure that the type of power cord and the voltage requirement of the power adaptor meet the local power conditions. Now the printer is ready for power on.

6. Self test

Press and hold down the feed button while turning the on / off switch on. The printer will then perform a self test. A sample slip of self test result is printed below. Please note that both serial and parallel interfaces are indicated. That means the printer is working on an autosensing and autoselect algorithm.

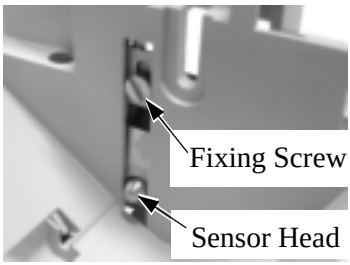
PP-7000 THERMAL PRINTER SELF-TEST
Firmware Version 4.1 ESC/POS
Interface : Serial / Parallel
Baud Rate : 9600 bps
None Parity, 8 Bit, 1 Stop Bit
Handshaking : hardware
Print Width : 512 dot / line
Paper width setting = 80 mm
Dip Switch 8 set to OFF
Character dump process
End of Self-test in PAGE MODE
Press FEED to run test printing

The header is printed in text mode and the rest part of this slip is printed in page mode. If FEED button is pressed at this

moment, a font table will be printed in text mode again. To exit the test printing, please turn the printer off and on again.

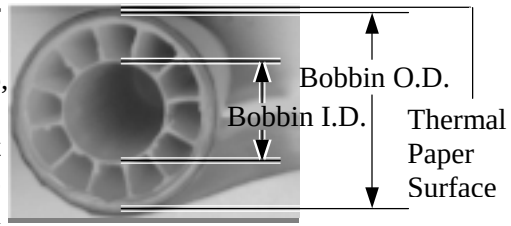
C. SPECIAL ADJUSTMENTS

1. Paper near end sensor



The near end sensor for paper roll in the printer is now able to have the printer work with paper rolls of several bobbin sizes. Please refer to the picture at right from inside the paper roll compartment that there are a fixing screw and a sensor head in the wall. Slightly release the fixing screw to adjust the position of sensor head. The acceptable paper roll bobbin outer diameter is between 18 and 22mm. This adjustment allows sensor activation on paper roll overall diameter between 21 and 23.6 mm unless for too light bobbins. Remember, for smaller roll diameter, the sensor head should go higher.

2. Paper roll placement



When the paper roll to put (back) in is already nearly used up, the paper roll must be placed in the way that the paper roll touches the sensor head from the outer surface but never allow the sensor head to ride on the bobbin body between the inner and outer diameter of the paper roll bobbin nor to go into the inner diameter of the paper roll bobbin. It is also noticed that some market available paper roll has

extremely light bobbin, easily causing the paper roll to go off position when paper feeding with low remaining paper. In this case, the paper near end sensor may function abnormally and it would be a good solution to set in the setup window to have the printer to send busy only when input buffer is full and not based on every off line signal.

3. Spacer plate

If the paper roll is of width less than the standard 80 / 58 mm, it may run away from the paper near end sensor during application resulting in an error status. In this case, please stick the spacer plate to the wall opposite to the paper near end sensor in the paper roll compartment. Each spacer plate compensates 1 mm paper roll width shortage. There will be 1 spacer plate in the accessory of the printer. If the user uses narrower paper roll and requires more spacer plates, it can be purchased from Posiflex.

4. Paper cutting

The paper advance after a protective cut is now set to 12 mm. In case the user uses direct cut instead of protective cut to have something like a logo printed on top of each slip, it is also highly suggested to print the logo and necessary paper feeding to make 12 mm paper advance right after each cut to prevent curling up and jamming of paper front edge inside the paper exit slot.

5. Wall mount application

In wall mount application, the paper near end sensor will not have proper operation and it is suggested to set in the setup window to have the printer to send busy only when input buffer is full and not based on every off line signal.

III. MAINTENANCE GUIDES

A. MAINTENANCE GUIDE LINES

- Always turn off and disconnect power before opening the cover.
- The areas around the print head and motor become very hot during and just after printing, do not touch them.
- When handling the interior of the thermal printer, please pay attention not to be hurt by any sharp edge of the metal parts.

B. GENERAL CLEANING

Please use soft hair brush or compressed air to clear away any dust or paper scraps accumulation inside the printer. Check also the area of the auto-cutter regularly.

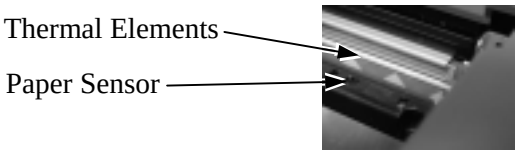
C. PRINT HEAD CLEANING

The print head is located underneath the roll paper passage at the exit as in the picture below. You can clean the thermal elements of the print head and paper sensor gently using a cotton swab moistened with isopropyl alcohol solvent.

NOTE: Never do this when print head is still hot

Do not touch the print head thermal elements

Do not scratch the print head



Before putting back the paper roll for printing, alcohol solvent must be dried completely.

D. TROUBLE SHOOTING

This section gives solutions to some printer problems you may have.

1. General Problems

No LED lights up on control panel when switched on – Make sure that the power supply cables are correctly plugged into the printer, the power adaptor and to the power outlet. Make sure that power is supplied to the power outlet. If the outlet is controlled by a switch or timer, try use another outlet.

2. Printing Problems

Nothing can be printed with ERROR LED ON – Check the Paper Out LED. If it is ON, most probably the paper roll is not installed or is at or near the end. Install a new paper roll. If the Paper Out LED is OFF, please check if the print hood is properly closed. There are 2 internal check points inside the printer to assure the locking of the hood for a decent printing. Therefore any dislocation of the hood may cause an error status and inhibition to printing. **Press down the hood at middle of the opening** when closing it till it audibly clicks into place. If both situations are not the cause, please try pulling the hood lock forward. If the top hood won't release automatically, **check for paper jam** described in next item.

If there is no paper jam and the printer has been printing for quite a period of time, the print head may be overheated. It will usually cool back in few minutes and the printing will resume.

If there is no paper jam and the print head is not overheated, turn off the printer and wait for half a minute then turn it back on. If the problem still remains, contact a qualified service person.

Nothing can be printed with ERROR LED OFF – Try to run self test according to previous chapter to check if the printer itself works properly. If the self test passes, check the following:

a. Check the connection of the interface cable at both the printer and computer ends. Also make sure that this cable meets the specification required for both the printer and the computer.

b. Check the printer data communication settings against the computer. The printer settings can be found easily on the self test print out.

If the problem remains or the self test fails, contact your dealer or a qualified service person.

Poor printing quality – Contaminants like paper scraps and dusts on the thermal print head can lower the print quality drastically. Clean the print head as described in previous section.

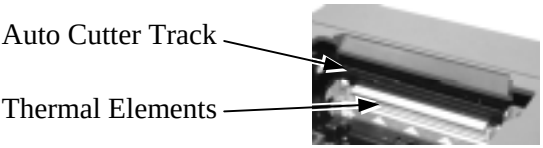
Printer trembles when printing – Since PP7000-II prints at 180 mm / sec that is extremely high speed, the printer may tremble due to frequent engagement of the brake and acceleration of the motor. Such situation in turn can be consequences of very complicated printer operation command or heavily dense printing (like in inverse printing) in print content or irregular / insufficient data flow received from the host. When this happens, the print speed will be dragged down drastically since the motor has to be stopped frequently. Avoiding such draw backs can free the printer from trembling and degraded performance. However, if it is impossible to avoid this, the printer may have to run at a lower

speed by adjusting an internal switch describe in last chapter of the manual.

3. Paper Jam Problems

Paper is jammed inside the printer – Turn off the printer and open the print hood by releasing the hood lock. Remove the jammed paper and reinstall the paper roll. Close the hood properly and firmly. Then turn on the printer for operation.

If the auto cutter is jammed, the print hood will be locked. Please first resolve the auto cutter problems per description in next item and then come back to deal with the paper jam. **Never force open the print hood.** Please also clear away any contaminants accumulated in the cutter track above the thermal elements.

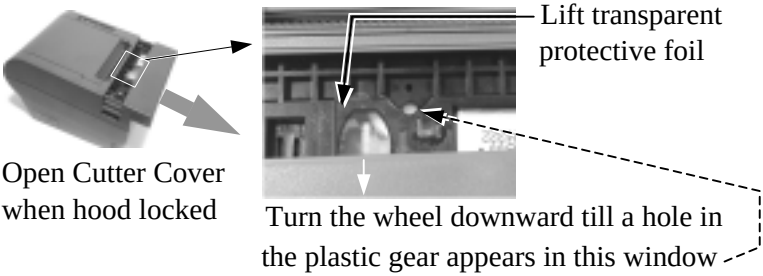


4. Auto Cutter Problems

In case any foreign materials like a staple or paper clip or excessive paper scraps fall into the auto cutter mechanism the auto cutter may lock up and so does the print hood. In such case, please pull the cutter cover forward to expose the cutter mechanism. Apply some mechanical assistance below to reset the cutter blade back to its home position. Please lift up if exist a transparent protective cover over the adjustment wheel. Turn this wheel downward. When the cutter blade returns to its standard position, a hole in the plastic gear will show up in the window as illustrated below. Then aim the guide of the cutter cover and push

it back to position when finish. The lock up of the print hood can then be released after this problem solved.

Please use manual cutter as temporary alternative measure once the auto cutter malfunctioned.


Lift transparent protective foil
Open Cutter Cover when hood locked
Turn the wheel downward till a hole in the plastic gear appears in this window

5. Advanced Analysis Tool

This printer supports **Hexadecimal Dump** for experienced user to view exactly what data is received by the printer. This can be useful in finding software problems.

To start the dump mode: Turn off printer; Open print hood; Hold down FEED button while turning printer on; Close the hood.

To stop the dump mode: Press the FEED button to print out the last line; Turn off the printer.

During dump mode: All commands except **DLE EOT** and **DLE ENQ** are disabled.

IV. SPECIFICATIONS

A. PRINTER

ITEM		SPECIFICATION
Printing method		Thermal sensitive line dot method
Effective printing width		64 mm
Thermal head configuration		512 dots / line
Printing speed	PP7000	Text mode: 80 mm / sec Page mode: 150 mm / sec
	PP7000-II	High speed mode: 180 mm /sec. Power saving mode: 120 mm / sec
Paper feed method		Friction auto-feed
Paper load method		Drop and use
Auto-cutter capability		Partial cut (1 point at center left)
Manual cutter		Saw tooth blade
Dot Pitch		0.125 x 0.125 mm
Input power type		DC
Input voltage		24 V + / - 5 %
Dimension (mm)		148 (W) x 199 (D) x 144 (H)
Weight		1.35 Kg net

B. PAPER

Paper type	Thermal roll paper
Paper roll formation	External side is heat-sensitive side
Paper width	80 (or 58) + 0 / - 1 mm
Paper roll outer diameter	83 mm max.
Paper roll inner diameter	12 + 1 / - 0 mm
Paper thickness	60 ~ 80 um

C. POWER ADAPTOR

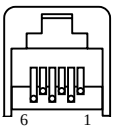
ITEM	REQUIREMENT
INPUT VOLTAGE	100 V AC ~ 250 V AC
INPUT FREQUENCY	50 ~ 60 HZ
INPUT CURRENT	1.5 A MAX. @ 115 V AC
OUTPUT VOLTAGE	+ 24 V DC
OUTPUT POWER	60 W
STATIC LOAD	0 A ~ 2.5 A
OUTPUT REGULATION	+ / - 5 %
MTBF	30,000 HRS
EMI STANDARDS	VDE – B, FCC – B, VCCI – B

V. TECHNICAL INFORMATION

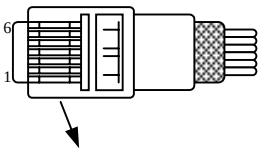
A. INTERFACES

1. Peripheral interface

The connector for peripheral control is a 6P6C RJ11 jack with the following pin assignment. The best recommended cash drawers to this connector are Posiflex CR3100, CR3200, CR4000 and CR4100. Using the cable 20863018001 (CCBLA-180-1) delivered with the cash drawer, the Aura series can control one dedicated cash drawer. However, by using an optional split cable 20867023800 (CCBLA-238), Aura series controls two cash drawers through this connector. Please connect the CR1 plug to the cash drawer (CRA) to be opened by command Esc p 1 n1 n2 and the CR2 plug to the cash drawer (CRB) to be opened by command Esc p 0 n1 n2.



6P6C RJ11 jack



6 pin plug

PIN #	Definition	Description
1	FG	Frame ground
2	CRB	Drawer kick for cash drawer controlled by software command Esc p 0 n1 n2
3	SENSE	Input peripheral status
4	VCC	+ 24 V DC supply
5	CRA	Drawer kick for cash drawer controlled by software command Esc p 1 n1 n2
6	SG	Signal ground

B. SETUP WINDOW

On bottom cover of the Aura series thermal printer, there is screwed a metal plate for setup window. In this window, there is a 8 position DIP switch for printer setup. Please use proper tool to change the switch setting when necessary. The switch position counting starts from the nearest edge of printer. The ON direction points to the connector area of the printer. The OFF direction points to the power switch. The functions of each position may evolve with the revisions of the firmware. The information below applies to the latest version to the date of print of this manual.

This 8 position DIP switch works as following:

Switch position	ON	OFF
1	RS232 baud rate definition or Parallel interface definition (ref. separate table below)	
2		
3	Even parity	None parity
4	XON handshaking	Hardware handshaking
5	Busy on “buffer full”	Busy on “off line”
6	Immediate cut	Protective cut
7	CR code effective	CR code ineffective
8	Factory internal setting	Application standard mode

Effect of positions 1 & 2 on baud rate is defined as in table below with parity check set according to position 3, number of data bits always set to 8, and stop bit set to 1. When the parallel interface is used, please set both positions to ON.

SW Pos. 1	ON	OFF	ON	OFF
SW Pos. 2	ON	ON	OFF	OFF
Baud rate or Interface	38400 bps / (Parallel)	4800 bps	9600 bps	19200 bps

Switch position 3 defines the parity check regulation in serial interface. In Aura, it is selectable between even and none.

Switch position 4 defines the handshaking method in serial interface. When it is set to ON, the printer transmits an “XOFF” for busy and sends an “XON” for not busy. When it is set to OFF, the printer signifies the busy status over hardware signals that can be detected by the host as “DSR” or “CTS”. When parallel interface is used, both switch positions 3 and 4 should be set to OFF.

For switch position 5, if the switch is set to ON, the busy signal is sent to host only when input buffer is full. When it is set to OFF, busy signal is sent to host whenever an off line status occurs. Therefore, signals including the paper near end detect will generate busy signal to the host. Consequently, the printing may be stopped even when there is still a long way to go before the paper roll is actually exhausted.

For switch position 6, when it is set to OFF, there will be a 20 mm paper feed before cutting when software does not define this point and there will be further 10 mm paper after cutting to prevent paper jam. Before setting this switch to ON, please make sure that your software will take care of enough paper feed for the paper jam prevention issue.

For switch position 8, when it is set to ON in the field, the printer maybe subject to unpredictable damages and must be strictly prevented.

The factory default for each position is listed below:

Switch Position	1	2	3	4	5	6	7	8
Serial interface w/ auto cutter	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Parallel interface w/ auto cutter	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF

C. INTERNAL SWITCH

There is an extra internal 4 position DIP switch in PP7000-II for more technical settings. To access these setup, please first turn off the printer power and disconnect every cable from the printer. Remove 4 screws from bottom of printer and remove the plastic bottom cover with the power switch pressed. The 4 position DIP switch seats beside the 8 position DIP switch for setup window with the switch position counting starts from the nearest side to the 8 position DIP switch.

This 4 position DIP switch works as following:

Switch position		**Setting Effect**	
↓	**Function**	**ON**	**OFF**
1	Print speed	42.5 lines / sec	28.3 lines / sec
2	Paper width	58 mm	80 mm
3	Line format	576 dots / line	512 dots / line
4	Reserved	N. A.	N. A.

For switch position 1, when it is set to ON, the printer runs in high speed mode. This is the default setting as the printer is delivered. However, depending on the print content (f.i. the printer is used for printing bar codes that have to be dark enough), it could be wiser to set the printer to work in power saving mode by changing the switch to OFF. The printer could run smoother and in effect faster due to elimination of motor brake application.

Switch position 2 is usually set to OFF for use with 80 mm paper width. When the printer is installed with the 58 mm paper guide adaptor for use with the paper roll of 58 mm width, the switch should be set to ON in PP7000-II.

Switch position 3 is usually set to OFF for ESC/POS command application that prints at 512 dots / line. Only technical users shall set this switch to ON and make the printer work in the 576 dots / line format.

D. SOFTWARE COMMANDS

The Aura thermal printer supports all commands applicable to Epson printer TM-T88II. The only difference is the smoothening command in enlarged text fonts. Please visit our web site *http://www.posiflex.com.tw*, *http://www.posiflextw.com*, *http://www.posiflexuk.com* or *http://www.posiflexusa.com* for detail description of the supported commands if required.

1. Enhancement commands

Following commands are included in the printer firmware version since ver. 3.2:

ESC 'o': Beep command

GS 'o' m: Beep definition (0 < m ≦ 16, default 3 seconds)

ESC 'p' m n1 n2: Cash drawer kick or kitchen bell drive command

GS 'p' m n: Beep when cash drawer remain open (0 < m < 256, n = '0' or '1')

Explanations as below:

ESC 'o': Beep command

Hexadecimal codes are: 1B 6F

Printer beeps when this command is received per condition set by beep definition.

GS 'o' m: Beep definition (0 < m ≦ 16, default 3 seconds)

Hexadecimal codes are: 1D 6F m

This command defines length of beep as m seconds when beep command is received. When m = 0, default applies.

ESC 'p' m n1 n2: Kitchen bell drive command (m = '0', 0 ≦ n1 ≦ n2 ≦ 255)

Hexadecimal codes are: 1B 70 m n1 n2

This command can be used to drive a **kitchen bell** purchased from Posiflex when this printer is used as a kitchen printer and the environment could be so noisy that the beeper for reminding the kitchen staff of the printing can be not loud enough. After fixing the kitchen bell onto say a kitchen wall, connect the cable from the bell to the peripheral connector on the printer. Then use this command with m set to 0 and both n1 and n2 set to 255. The printer will be able to drive the kitchen bell for about half a second on each such command. If this command is sent to the printer multiple times consecutively, the bell will ring for about half a second and rest for also about half a second then ring again for multiple times.

GS 'p' m n: Beep when cash drawer remain open (0 < m < 256, n = '0' or '1')

Hexadecimal codes are: 1D 70 m n

If the cash drawer connected to the printer remains open for more than m seconds, the printer beeps until the drawer is closed. If m = 0, this function is disabled. The factory default of the printer is set to disable this function. The parameter n in this command identifies the way cash drawer indicates drawer open status. n = '0' (30H) applies to drawers giving an "open" signal when cash drawer is opened. n = '1' (31H) applies to drawers giving a "short" signal when drawer is opened. Any value of the parameters outside the defined range will cause the entire command ignored.

E. CHARACTER CODE PAGES

Aura series printer supports all code pages and international character sets applicable to Epson printer TM-T88. They are:

Page 0 (PC437: USA / Standard Europe)
Page 1 (Katakana)
Page 2 (PC850: Multilingual)
Page 3 (PC860: Portuguese)
Page 4 (PC863: Canadian-French)
Page 5 (PC865: Nordic)
Page 17 (PC866: Cyrillic #2)
Page 19 (PC858: Euro Dollar Sign included in PC850)

The international character sets supported in the code pages include USA; France; Germany; UK; Denmark I; Sweden; Italy; Spain; Japan; Norway; Denmark II; Spain II; Latin America; Korea for character set code from 0 to D and Ex-Jugoslavia for character set code F.

If any undefined code (<00> to <1F>) or an undefined <ESC>, <FS>, or <GS> command sequence beyond these tables is received, the code or the sequence of codes will be discarded. (However, when image print data, character registration data, or command parameters are received, they are handled as ordinary data.)

The user may visit our web at *http://www.posiflex.com.tw*, *http://www.posiflextw.com*, *http://www.posiflexuk.com* or *http://www.posiflexusa.com* for a view of the fonts in the code pages and character sets.

I. Character Code Tables

A. ASCII TABLE

Hex	0	1	2	3	4	5	6	7
0	NUL	DLE	SP	0	@	P	`	p
1		XON	!	1	A	Q	a	q
2			"	2	B	R	b	r
3		XOFF	#	3	C	S	c	s
4	EOT	DC4	$	4	D	T	d	t
5	ENQ		%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8	BS	CAN	(	8	H	X	h	x
9	HT		)	9	I	Y	i	y
A	LF		*	:	J	Z	j	z
B		ESC	+	;	K	[	k	{
C	FF	FS	,	<	L	\	l	¦
D	CR	GS	-	=	M	]	m	}
E			.	>	N	^	n	~
F			/	?	O	_	o	SP

B. Page 0 (PC437: U.S.A., Standard Europe)

Hex	8	9	A	B	C	D	E	F
0	Ç	É	á	▒	└	╨	α	≡
1	ü	æ	í	▓	┴	╤	β	±
2	é	Æ	ó	█	┬	╥	Γ	≥
3	â	ô	ú	┃	├	╙	π	≤
4	ä	ö	ñ	┤	─	╘	Σ	⌠
5	à	ò	Ñ	╡	┼	╒	σ	⌡
6	å	û	a	╢	╞	╓	µ	÷
7	ç	ù	o	╖	╟	╫	τ	≈
8	ê	ÿ	¿	╕	╚	╪	Φ	°
9	ë	Ö	⌐	╣	╔	┘	θ	●
A	è	Ü	¬	║	╩	┌	Ω	·
B	ï	¢	½	╗	╦	▉	δ	√
C	î	£	¼	╝	╠	▄	∞	n
D	ì	¥	¡	╜	═	▌	Ø	2
E	Ä	Pt	«	╛	╬	▐	Є	■
F	Å	ƒ	»	┐	╧	▀	∩	SP

C. Page1 (Katakana)

Hex	8	9	A	B	C	D	E	F
0	▁	┴	SP	ー	タ	ミ	═	╳
1	▂	┬	。	ア	チ	ム	╞	円
2	▃	┤	「	イ	ツ	メ	╪	年
3	▄	├	」	ウ	テ	モ	╡	月
4	▅	‾	、	エ	ト	ヤ	◢	日
5	▆	─	・	オ	ナ	ユ	◣	時
6	▇	│	ヲ	カ	ニ	ヨ	◥	分
7	▇	▕	ァ	キ	ヌ	ラ	◤	秒
8	▏	┌	ィ	ク	ネ	リ	♠	╤
9	▏	┐	ゥ	ケ	ノ	ル	♥	市
A	▌	└	ェ	コ	ハ	レ	♦	区
B	▌	┘	ォ	サ	ヒ	ロ	♣	町
C	▌	┌	ャ	シ	フ	ワ	●	村
D	▌	┐	ュ	ス	ヘ	ン	○	人
E	▌	└	ョ	セ	ホ	゛	／	▮
F	┼	┘	ッ	ソ	マ	゜	＼	SP

D. Page 2 (PC850: Multilingual)

Hex	8	9	A	B	C	D	E	F
0	Ç	É	á	▒	└	ð	Ó	-
1	ü	æ	í	▓	┴	Ð	β	±
2	é	Æ	ó	█	┬	Ê	Ô	‗
3	â	ô	ú	┤	├	Ë	Ò	¾
4	ä	ö	ñ	┤	─	È	õ	¶
5	à	ò	Ñ	Á	┼	í	Õ	§
6	å	û	a	Â	ã	Í	µ	÷
7	ç	ù	o	À	Ã	Î	þ	¸
8	ê	ÿ	¿	©	╚	Ï	Þ	°
9	ë	Ö	®	╣	╔	┘	Ú	¨
A	è	Ü	¬	║	╩	┌	Û	·
B	ï	ø	½	╗	╦	█	Ù	¹
C	î	£	¼	╝	╠	▄	ý	³
D	ì	Ø	¡	¢	═	¦	Ý	²
E	Ä	×	«	¥	╬	Ì	¯	■
F	Å	ƒ	»	┐	¤	▀	´	SP

E. Page 3 (PC860: Portuguese)

Hex	8	9	A	B	C	D	E	F
0	Ç	É	á	▒	└	╨	α	≡
1	ü	À	í	▓	┴	╤	β	±
2	é	È	ó	█	┬	╥	Γ	≥
3	â	ô	ú	┃	├	╙	π	≤
4	ã	õ	ñ	┤	─	╘	Σ	⌠
5	à	ò	Ñ	╡	┼	╒	σ	⌡
6	Á	Ú	a	╢	╞	╓	µ	÷
7	ç	ù	o	╖	╟	╫	τ	≈
8	ê	Ì	¿	╕	╚	╪	Φ	°
9	Ê	Õ	Ò	╣	╔	┘	θ	•
A	è	Ü	¬	║	╩	┌	Ω	·
B	Í	¢	½	╗	╦	█	δ	√
C	Ô	£	¼	╝	╠	▄	∞	n
D	ì	Ù	¡	╜	═	▌	Ø	2
E	Ã	Pt	«	╛	╬	▐	Є	■
F	Â	Ó	»	┐	╧	▀	∩	SP

F. Page 4 (PC863: Canadian-French for standard model only)

Hex	8	9	A	B	C	D	E	F
0	Ç	É	¦	▒	└	╨	α	≡
1	ü	È	´	▓	┴	╤	β	±
2	é	Ê	ó	█	┬	╥	Γ	≥
3	â	ô	ú	▏	├	╙	π	≤
4	Â	Ë	¨	▎	─	╘	Σ	⌠
5	à	Ï	¸	▍	┼	╒	σ	⌡
6	¶	û	³	▌	╞	╓	µ	÷
7	ç	ù	¯	▋	╟	╫	τ	≈
8	ê	¤	Î	▊	╚	╪	Φ	°
9	ë	Ô	⌐	▉	╔	┘	θ	●
A	è	Ü	¬	╢	╩	┌	Ω	·
B	ï	¢	½	╖	╦	▉	δ	√
C	î	£	¼	╕	╠	▄	∞	n
D	▬	Ù	¾	╜	═	▌	ø	2
E	À	Û	«	╛	╬	▐	ϵ	■
F	§	*f*	»	┐	╧	▀	∩	SP

G. Page 5 (PC865: Nordic for standard model only)

Hex	8	9	A	B	C	D	E	F
0	Ç	É	á	▒	└	╨	α	≡
1	ü	æ	í	▓	┴	╤	β	±
2	é	Æ	ó	█	┬	╥	Γ	≥
3	â	ô	ú	|	├	╙	π	≤
4	ä	ö	ñ	┤	─	╘	∑	⌠
5	à	ò	Ñ	╡	┼	╒	σ	⌡
6	å	û	a	╢	╞	╓	µ	÷
7	ç	ù	o	╖	╟	╫	τ	≈
8	ê	ÿ	¿	╕	╚	╪	Φ	°
9	ë	Ö	⌐	╣	╔	┘	θ	•
A	è	Ü	¬	║	╩	┌	Ω	·
B	ï	ϕ	½	╗	╦	▉	δ	√
C	î	£	¼	╝	╠	▄	∞	n
D	ì	Ø	¡	╜	═	▌	ø	2
E	Ä	Pt	«	╛	╬	▐	ϵ	■
F	Å	ƒ	¤	┐	╧	▀	∩	SP

H. Page 17 (PC866: Cyrillic #2 for European model only)

Hex	8	9	A	B	C	D	E	F
0	А	Р	а	▒	└	╨	р	Ё
1	Б	С	б	▒	┴	╤	с	ё
2	В	Т	в	▒	┬	╥	т	Є
3	Г	У	г	▒	├	╙	у	є
4	Д	Ф	д	▒	─	╘	ф	Ї
5	Е	Х	е	▒	┼	╒	х	ї
6	Ж	Ц	ж	▒	╞	╓	ц	Ў
7	З	Ч	з	▒	╟	╫	ч	ў
8	И	Ш	и	▒	╚	╪	ш	°
9	Й	Щ	й	▒	╔	┘	щ	∙
A	К	Ъ	к	▒	╩	┌	ъ	·
B	Л	Ы	л	▒	╦	▒	ы	√
C	М	Ь	м	▒	╠	▒	ь	№
D	Н	Э	н	▒	═	▒	э	¤
E	О	Ю	о	▒	╬	▒	ю	■
F	П	Я	п	▒	╧	▒	я	

I. Page 18 (PC852: Latin II for European model only)

Hex	8	9	A	B	C	D	E	F
0	Ç	É	á	▒	└	đ	Ó	-
1	ü	Ĺ	í	▓	┴	Đ	ß	˝
2	é	Í	ó	█	┬	Ď	Ô	˛
3	â	ô	ú	┤	├	Ë	Ń	ˇ
4	ä	ö	Ą	┤	─	ď	ń	˘
5	ů	Ľ	ą	Á	┼	Ň	ň	§
6	ć	ľ	Ž	Â	Ã	Í	Š	÷
7	ç	Ś	ž	Ě	ã	Î	š	¸
8	ł	ś	Ę	Ş	╚	ě	Ŕ	°
9	ë	Ö	ę	╣	╔	┘	Ú	¨
A	Ő	Ü		║	╩	┌	ŕ	·
B	ő	Ť	ź	╗	╦	█	Ű	ű
C	î	ť	Č	╝	╠	▄	ý	Ř
D	Ź	Ł	ş	Ż	═	Ţ	Ý	ř
E	Ä	×	«	ż	╬	Ů	ţ	■
F	Ć	č	»	┐	¤	▀	´	▉

J. Page 19 (PC858: Euro-Dollar Sign for European model only)

Hex	8	9	A	B	C	D	E	F
0	Ç	É	á	▒	└	ð	Ó	-
1	ü	æ	í	▓	┴	Ð	β	±
2	é	Æ	ó	█	┬	Ê	Ô	‗
3	â	ô	ú	┤	├	Ë	Ò	¾
4	ä	ö	ñ	┤	─	È	õ	¶
5	à	ò	Ñ	Á	┼	€	Õ	§
6	å	û	a	Â	ã	Í	µ	÷
7	ç	ù	o	À	Ã	Î	þ	¸
8	ê	ÿ	¿	©	╚	Ï	Þ	°
9	ë	Ö	®	╣	╔	┘	Ú	¨
A	è	Ü	¬	║	╩	┌	Û	·
B	ï	ϕ	½	╗	╦	▮	Ù	¹
C	î	£	¼	╝	╠	▄	ý	³
D	ì	Ø	¡	¢	═	¦	Ý	²
E	Ä	×	«	¥	╬	Ì	¯	■
F	Å	ƒ	»	┐	¤	▀	´	SP

K. Page 255 (Greek for European model only)

Hex	8	9	A	B	C	D	E	F
0	€			°	ΐ	Π	ΰ	π
1		‘	‘‘	±	A	P	α	ρ
2	’	’	Ά	²	B		β	ς
3	*f*	“	£	³	Γ	Σ	γ	σ
4	”	”	¤	΄	Δ	T	δ	τ
5	…	+	¥	µ	E	Y	ε	υ
6	┼	–	¦	¶	Z	Φ	ζ	φ
7	╪	—	§	·	H	X	η	χ
8			¨	Έ	Θ	Ψ	θ	ψ
9	‰	™	©	Ή	I	Ω	ι	ω
A				Ί	K	Ϊ	κ	ϊ
B	<	>	«	»	Λ	Ÿ	λ	ϋ
C			¬	Ό	M	ά	µ	ό
D			-	½	N	έ	ν	ύ
E			®	Ύ	Ξ	ή	ξ	ώ
F			¯	Ώ	O	ί	o	

L. Page 255 (Thai for standard model only)

Hex	8	9	A	B	C	D	E	F
0	┌	๙		ฐ	ภ	ะ	เ	๐
1	┐	๑	ก	ฑ	ม	ั	แ	๑
2	└	๒	ข	ฒ	ย	า	โ	๒
3	┘	๓	ฃ	ณ	ร	ำ	ใ	๓
4	│	๔	ค	ด	ฤ	ิ	ไ	๔
5	─	๕	ฅ	ต	ล	ี	ๅ	๕
6	├	๖	ฆ	ถ	ฦ	ึ	ๆ	๖
7	┤	๗	ง	ท	ว	ื	็	๗
8	┴	๘	จ	ธ	ศ	ุ	่	๘
9	┬	๙	ฉ	น	ษ	ู	้	๙
A	┼	๚	ช	บ	ส	ฺ	๊	๚
B	▮	๛	ซ	ป	ห	฿	๋	๛
C	๐	๏	ฌ	ผ	ฬ	เ	์	๏
D	๑	๐	ญ	ฝ	อ	แ	๎	๐
E	๒	๑	ฎ	พ	ฮ	โ	๏	๑
F	๓	๒	ฏ	ฟ	ฯ	ใ	๏	๒

II. International Character Set

Country		ASCII code (in HEX)											
		23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
00	U.S.A.	#	$	@	[	\	]	^	`	{	|	}	~
01	France	#	$	à	º	ç	§	^	`	é	ù	è	¨
02	Germany	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	β
03	U.K.	£	$	@	[	\	]	^	`	{	|	}	~
04	Denmark I	#	$	@	Æ	Ø	Å	^	`	æ	ø	å	~
05	Sweden	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
06	Italy	#	$	@	º	\	é	^	ù	à	ò	è	ì
07	Spain	Pt	$	@	¡	Ñ	¿	^	`	¨	ñ	}	~
08	Japan	#	$	@	[	¥	]	^	`	{	|	}	~
09	Norway	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
0A	Denmark II	#	$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
0B	Spain II	#	$	á	¡	Ñ	¿	é	`	í	ñ	ó	ú
0C	Latin America	#	$	á	¡	Ñ	¿	é	ü	í	ñ	ó	ú
0D	Korea	#	$	@	[	₩	]	^	`	{	|	}	~
0F	Ex-Jugoslavia	#	$	Ž	Š	Đ	Ć	Č	ž	š	đ	ć	č